

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

ON THE MOLLUSCAN GENUS *TRIMUSCULUS*
SCHMIDT 1818, WITH NOTES ON SOME
MEDITERRANEAN AND WEST AFRICAN
SIPHONARIAS.

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Trimusculus was proposed as a new generic name for several *Patellas* on page 218 of the rare work by Fredrich Christian Schmidt, entitled, in brief, "Versuch über die beste Einrichtung . . . der Conchylien-Sammlungen . . .," Gotha, 1818. The diagnosis given here is adequate enough so that we know that he was separating the air-breathing limpet-like mollusks that we know as *Gadinia* and *Siphonaria*, from the gill-bearing marine forms. Moreover, he lists as belonging to his new group thirteen species of *Patella*, namely, *Patella mammillaris* Linné, *melanoleuca* α , *melanoleuca* β , *leucopleura* α , *leucopleura* β , *leucopleura* δ , *striatula* of Gmelin, and *castanea*, *filaris*, *calix*, *serrata*, *strigosa*, *strigosissima* of Schröter.

The *Patella mammillaris* Linné is, according to Hanley, the Mediterranean *Gadinia garnotii* Payr. *Patella melanoleuca* Gmelin is the West African *Siphonaria*, that has been called *lineolata* Orbigny, although this name must be restricted to the Caribbean species. *Patella melanoleuca* β is probably also a *Siphonaria*, judging from Schröter's brief description to which Gmelin refers. *Patella striatula* Gmelin is likewise a *Siphonaria*. *Patella leucopleura* Gmelin is a West Indian *Acmaea*, while *leucopleura* β and δ are more or less indeterminable, the variety β being possibly a *Siphonaria*. I have been unable to find a description of the species credited here to Schröter.

Since the position of this genus, to which Iredale has recently called attention (British Museum Great Barrier Reef Exped. 1928-29, Scientific Reports, vol. 5, no 6, Mollusca, pt. 1, 1939, p. 274) must be fixed, I designate as genotype the species *Patella mammillaris* Linné, which will bring about the substitution of *Trimusculus* Schmidt for *Gadinia* Gray; the designation

of any of the other recognizable species would cause the upsetting of the more widely used name *Siphonaria*.

Herrmannsen synonymized the genus with *Siphonaria*, since he dated the name from 1832, its appearance in Möller's description of the collection of Schmidt at Gota. Here (see reference below), Möller gives a brief but sufficient description, but mentions no species. Marshall, in 1873, lists *Trimusculus* with the correct citation, but von Martens, who worked on the molluscan names in this work, apparently did not accept the genus, as he also places it under *Siphonaria*.

TRIMUSCULUS Schmidt.

1818. *Trimusculus* Schmidt, Versuch . . . Einrichtung . . . Conch.—Samml., p. 218.
 1832. *Trimusculus*, Möller, Isis (von Oken), vol. 25, p. 132.
 1849. *Trimusculus*, Herrmannsen, Ind. Gen. Malac., vol. 2, p. 601.
 1873. *Trimusculus*, Marschall, Nomenclator Zool., p. 143.
 1824. *Gadinia* Gray, Tilloch's Phil. Mag., vol. 63, p. 275.
 1833. *Clypeus* Scacchi, Oss. Zool., vol. 2, p. 27.
 1835. *Mouretia* Sowerby, Proc. Zool. Soc. L., 1835, p. 6 (nomen nudum).
 1842. *Mouretia*, Sowerby, Man. Conch., ed. 2, p. 192.
 ? 1864. *Rowellia* 'Cooper' Carpenter, Rept. Brit. Assoc. Adv. Science for 1863, p. 651.
 ? 1865. *Rowellia* 'Cooper' Gabb, Proc. Calif. Acad. Sci., p. 188.

Genotype (here designated): *Trimusculus mammillaris* Linné (*Patella mammillaris* Linné).

Linné, after his brief description of *Patella mammillaris*, which he says is found in the Mediterranean Sea, cites figures in Lister and Klein as representing his species. Klein's figure, which is a copy of that of Lister, is cited also for the following species, *Patella pectinata*, which likewise is said to come from the Mediterranean. Thus we have two species illustrated by the same figure, which is that of a West African *Siphonaria*, the *Mouret* of Adanson. But not only does the description of *Patella pectinata* fit this West African species better than does *P. mammillaris*, but the specimen marked for this species in the Linnean cabinet is, according to Hanley, the *Mouret* of Adanson. Hanley's indifferent figure of this Linnean specimen represents the western Mediterranean form long called *Siphonaria algesirae* R. & G., and similar enough to the West African form to be confused with it. The latter shell, from Liberia, Cape Palmas and southward, is more finely ribbed, and must bear the name *Siphonaria grisea* (Gmelin), while the more coarsely ribbed form, resulting in the internal brown lines being heavier and more widely spaced, from the western Mediterranean and the Cape Verde Islands, will be called *Siphonaria pectinata* (Linné). In regard to *Patella mammillaris* we therefore must disregard the cited figure which represents another Linnean species, and follow Hanley, who fixes the name on a specimen in the Linnean collection of the Mediterranean, *Gadinia garnotii* Payraudeau, and the description, brief though it be, fits this species better than it does the darker, stouter *Siphonaria*.

Weinkauff¹ maintains that Linné's description and Hanley's figure do not agree with Payraudeau's description in that the latter says his species is longitudinally and transversely striated, whereas Linné does not mention any transverse sculpture, and Hanley's figure shows only distant growth lines. But Payraudeau's figures likewise show only three to four spaced growth lines, which apparently represent his transverse sculpture, and an examination of numerous specimens in the Jeffreys collection shows the only transverse sculpture is that of the very variable growth lines. In some specimens the growth lines only inconspicuously affect the radial rib; in others, the shell is strongly marked by interruptions in the growth, and the radial riblets may often be conspicuously nodulose.

¹ Die Conchylien des Mittelmeeres, vol. 2, 1868, pp. 175-176.